
Before the
Federal Communications Commission
Washington DC

In the Matter of)
)
Improving Public Safety Communications)
In the 800 MHz Band) WT Docket No. 02-55
)
Consolidating the 900 MHz Industrial/Land)
Transportation and Business Pool Channels)

To: the Commission

**Reply to Petitions for Clarification and Reconsideration
of the United Telecom Council, National Rural Electric Cooperative
Association, American Petroleum Institute, Edison Electric Institute,
Association of Metropolitan Water Agencies, American Water Works
Association and American Public Power Association**

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SUMMARY

The R&O includes details of a highly complex plan to reconfigure the private land mobile radio (PLMR) portion of the 800 MHz band, specifically 806-824/851-869 MHz, along with interference mitigation and prevention measures to eliminate unacceptable interference to incumbent licensees from low-site cellular wireless systems, especially that of Nextel Communications. While the CI Reply Coalition appreciates the Commission's efforts to solve the interference problem, it agrees with several petitioners that elements of the R&O should be revised to avoid potential harm to incumbents, especially critical infrastructure industry (CII) entities. Among these, the CI Reply Coalition supports strongly the extension of interference protection and notification measures to the 900 MHz PLMR band, 896-901/935-940 MHz. The Coalition also agrees that CII licensees should receive similar treatment to that provided to traditional Public Safety licensees, and that incumbent licensees already operating in the 861-862 MHz "Guard Band" portion of the spectrum should be permitted fully funded relocation of their systems. The CI Reply Coalition asks for clarification of re-licensing procedures during rebanding to ensure the application of current 800 MHz Rules, as well as new measures to make certain that former Nextel frequencies are allocated properly. Public Safety and CII licensees should be extended an expedited waiver process when seeking to implement a private cellular architecture. The CI

Reply Coalition recommends that licensees operating simultaneously in both border and non-border areas be required to reband only once. Finally, the CI Reply Coalition notes an apparent error in the Final Rules concerning the definition of “Critical Infrastructure Industries” and supports proposed revised language.

Table of Contents

Summary.....	ii
I. Introduction.....	1
II. Discussion.....	5
A. The Interference Protection Standards and Notification Rules Adopted for the 800 MHz Band Should be Extended to the 896-901/935-940 MHz PLMR Band.....	5
B. The FCC Should Clarify Treatment of CII Licenses.....	7
1. CI Should Have Access to Former Nextel Frequencies throughout the Five-year Preference Period.....	7
2. "Safety Valve" Emergency Interference Protection Provisions Should Be Extended to Critical Infrastructure Licensees.....	10
C. Re-Licensing Procedures Should be Clarified.....	11
1. Full, 70-mile Separation Should be Restored Between Base Stations in Re-licensing Former Nextel Frequencies.....	11
2. Frequency Coordinators Require Procedures to Ensure the Post-Rebanding Licensing Occurs Properly.....	12
D. The FCC Should Adopt an Expedited Waiver Process for Public Safety and Critical Infrastructure Licensees Seeking Waivers of §90.614 of the Commission's Rules.....	13
E. Incumbent Licensees Operating on 861-862 MHz Should Be Eligible for Funded Relocation of their Systems.....	15
F. Entities Operating in Both Border and Non-Border Areas Should be Required to Retune Only Once Unless Otherwise Agree Through Negotiation.....	16
G. The Definition of "Critical Infrastructure Industries" Stated in the Report and Order Should Be Modified.....	17
III. Conclusion.....	18

Pursuant to Section 1.429 of the Commission's Rules, 47 C.F.R. § 1.429, the United Telecom Council, National Rural Electric Cooperative Association, American Petroleum Institute, Edison Electric Institute, Association of Metropolitan Water Agencies, American Water Works Association and American Public Power Association (collectively, the "CI Reply Coalition") here reply to petitions before the Federal Communications Commission ("FCC", the "Commission") for reconsideration and clarification of the *Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order* in its 800 MHz interference proceeding.¹

I. Introduction

The CI Reply Coalition members, representing thousands of critical infrastructure industries ("CII") service providers, have been active participants through all phases of this proceeding. The impact of the Commission's decision on many of their member entities make them interested parties in replying to Petitions for Reconsideration and/or Clarification.

The American Petroleum Institute (API) is a national trade association representing approximately 400 companies involved in all phases of the petroleum and natural gas industries. The API

¹ Improving Public Safety Communications in the 800 MHz Band, WT Docket No. 02-55, *Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order*, 19 FCC Rcd 14969 (2004) ("R&O").

Telecommunications Committee is one of the standing committees of the organization's General Committee on Information Management & Technology. The Telecommunications Committee evaluates and develops responses to state and federal proposals affecting telecommunications facilities used in the petroleum and natural gas industries. API's Telecommunications Committee is supported and sustained by companies that are authorized by the Commission to operate telecommunications systems in various licensed radio services, including extensive operations in the 800 MHz private land mobile band. These systems are used to support the search for and production of oil and natural gas, to ensure the safe pipeline transmission of natural gas, crude oil and refined petroleum products, to process and refine these energy sources and to facilitate their ultimate delivery to industrial, commercial and residential customers.

The American Public Power Association (APPA) is a national service organization that represents the interest of more than 2,000 publicly owned, not-for-profit electric utilities located in all states except Hawaii. Currently, approximately three-fourths of APPA's members serve communities with fewer than 10,000 residents. Public power systems operated by municipalities, counties, authorities, states and public utility districts provide electricity to approximately 43 million Americans.

The American Water Works Association (AWWA) is an international non-profit, scientific and educational society dedicated to the improvement of drinking water quality and supply. AWWA's 57,000-plus members represent the full spectrum of the drinking water community: treatment plant operators and managers, public health officials, scientists, academicians, and others who hold a genuine interest in water supply and public health. Our membership includes more than 4,700 utilities which operate public water systems that supply roughly 80 percent of the nation's drinking water. Water operations at typical public water systems involve specific telecommunication applications in treatment and distribution of drinking water, including radio. To date, drinking water utilities continue to find that internal voice and data communication systems are critical to ensuring a safe and reliable water supply.

The Association of Metropolitan Water Agencies (AMWA) has more than 185 member agencies from Anchorage to Puerto Rico. Collectively, member agencies serve 124 million Americans with clean, safe drinking water. AMWA's primary objective is to be the unified and definitive voice for the largest publicly owned drinking water systems on regulatory, legislative and security issues. To this end, the association works with Congress and federal agencies to ensure safe and cost-effective federal drinking water laws and regulations and to develop federal-local partnerships to protect water systems and consumers against acts of

terrorism. AMWA also is committed to the collection and exchange of management, scientific and technical information to support competitive utility operations, effective utility leadership, safe and secure water supplies and effective public communication on drinking water quality.

Edison Electric Institute (EEI) is the premier trade association for U.S. shareholder-owned electric companies, and serves international affiliates and industry associates worldwide. Its U.S. members serve almost 95 percent of the ultimate customers in the shareholder-owned segment of the industry and nearly 70 percent of all electric utility ultimate customers in the nation, and generate over 70 percent of the electricity produced by U.S. electric utilities.

The National Rural Electric Cooperative Association (NRECA) is the not-for-profit, national service organization representing 930 rural electric systems which serve 35 million customers in 47 states. NRECA's members depend upon communications systems to safely operate, monitor, control and repair their electric systems. A least 90 NRECA members currently operate within the 800 MHz spectrum band, and a number of the Association's members operate within the 900 MHz band. NRECA's members are a part of the nation's critical infrastructure and nearly all of

NRECA's members fall within the classification of a "small utility" firm as defined by the Small Business Administration.²

Since 1948, the United Telecom Council (UTC) has been the national representative on communications matters for the nation's electric, gas, and water utilities and natural gas pipelines. Approximately 600 such entities are members of UTC, ranging in size from large combination electric-gas-water utilities that serve millions of customers, to smaller, rural electric cooperatives and water districts that serve only a few thousand customers each. Together with its affiliated association members, UTC represents the telecommunications and information technology interests of virtually every utility and pipeline in the country, as well as those of other entities identified by the FCC as critical infrastructure industries ("CII").

II. Discussion

A. The Interference Protection Standards and Notification Rules Adopted for the 800 MHz Band Should be Extended to the 896-901/935-940 MHz PLMR Band.

The CI Reply Coalition agrees with the several petitioners calling for extension of the Commission's new 800 MHz interference protection standards and notification rules to the 900 MHz PLMR frequency band,

² The Small Business Administration's size standards define an electric "utility" firm as "small" if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale and its total electric output for the preceding fiscal year did not exceed 4 million megawatt hours. 13 C.F.R. § 121.201.

896-901/935-940 MHz.³ The same mixture of private wireless users, including many mission-critical and CII systems, if not a purely traditional public safety presence, rely on this band for their communications needs. The Commission's decision in the R&O not to accept Nextel's offer of its 900 MHz SMR licenses, and indeed its anticipation that Nextel will use these licenses more heavily during 800 MHz rebanding and thereafter,⁴ give rise to the same concerns about growing interference in the 900 MHz band as in the 800 MHz band. Interference already occurs in this band; extending new rules will help to alleviate this while forestalling new problems.

Another cause for concern is the Commission's decision to permit commercial conversion of PLMR incumbent systems without the five-year "holding" period adopted for the 800 MHz band.⁵ The CI Reply Coalition, representing thousands of CII entities, disagrees with the Commission's dismissal of interference concerns in the 900 MHz band simply because there is no traditional Public Safety pool. All licensees operating in compliance with the FCC's Rules are entitled to interference-free communications,⁶ and as the Commission has repeatedly acknowledged, CII has special needs for reliable and safe wireless operations.

³ See, e.g., Petition for Reconsideration of Exelon Corporation ("Exelon") at 4-5; Petition for Reconsideration of the Association of American Railroads ("AAR") at 3-6; Petition for Reconsideration of the National Association of Manufacturers and MRFAC, Inc. ("MRFAC") at 3-8.

⁴ See, R&O at ¶ 207.

⁵ See, *Id.* at ¶ 337.

⁶ See, *c.f.*, 47 U.S.C. § 303(f).

The CI Reply Coalition agrees with MRFAC and others that recommend the same interference protection standard for the 900 MHz PLMR frequency band as adopted for 800 MHz (Final Rules § 22. 970(a) and § 90.672(a)). Enhanced Best Practices for interference mitigation also should be extended to the 896-901/935-940 MHz band, as well as reciprocal notification rights for Public Safety and CII licensees.⁷ The CI Reply Coalition agrees with MRFAC's contention concerning the Commission's decision not to impose a cellular restriction in the 900 MHz band:⁸ the issue is not potential hindrance of new technologies, but reasonable precautions to avoid the emergence of similar interference problems brought on by the lack of such standards in the past. The CI Reply Coalition believes that a rule providing real interference protection, coupled with mitigation requirements and reciprocal notification between PLMR licensees and cellular systems, will offer 900 MHz licensees adequate protection as this band faces heavier use in the future, while permitting them migration to new technologies as desired.

B. The FCC Should Clarify Treatment of CII Licensees.

1. CI Should Have Access to Former Nextel Frequencies throughout the Five-year Preference Period.

The CI Reply Coalition members, as trade associations representing electric, gas, water, energy and pipeline segments of the critical

⁷ See, *Id.* at ¶¶ 124-127.

⁸ MRFAC at 5.

infrastructure community, appreciate the Commission's recognition of the importance of private radio services used by their members to safeguard the safe and reliable provision of basic services, added to their emergency responsibilities, during which they are among the first responder community. Given this recognition, however, CII licensees are disappointed that the Commission chose to differentiate between them and traditional Public Safety licensees in making particular decisions vital to the foreseeable use of the 800 MHz band. The CI Reply Coalition supports those Petitions for Reconsideration urging that CII be included in the full five-year licensing preference period along with Public Safety eligibles.⁹

As Exelon notes, part of critical infrastructure's vital emergency role is in support of public safety agencies: top electrical utility priorities during a major power outage, for example, include both providing communications support for public safety personnel whose systems have failed and restoring power to those systems as soon as possible. Also, as the Commission is aware, the vast majority of electric, gas and water utilities in the United States is community-owned and -operated, like public safety agencies. Those systems operating on 800 MHz frequencies will require expansion to meet growing community needs, just as public safety

⁹ See, e.g., Exelon at 5.

agencies will require greater coverage and improved technology to serve the same communities.

These entities generally suffer the same financial limitations as public safety agencies. Municipal electric and gas utilities, and thousands of local water authorities, must rely on community-approved rates to cover all their costs. Municipalities especially are reluctant to authorize additional funding that would impose heavier tax or fee burdens on their citizens. Moreover, these systems have other priorities: for example, there is a tremendous, unmet water and wastewater funding need across the United States due to ageing infrastructure, a need recognized by Federal agencies and under consideration by Congress. Communities across the nation are recognizing the synergies between local public safety and utilities in managing communications investments: they cannot afford duplicative, expensive wireless systems.

PLMR channel pairs in the 800 MHz band are assigned based on a showing of need, with loading requirements; licensees are restricted to applying only for what they currently require, generally with a one-year construction deadline.¹⁰ The CI Reply Coalition agrees with AEP that “[t]he public safety/CII exclusivity periods should not be seen as an opportunity for licensees to ‘load up’ on spectrum and hold on to it indefinitely.”¹¹ Given the similar responsibilities of CII to those of Public Safety, and their

¹⁰ See, 47 C.F.R. § 90.155.

¹¹ Petition for Clarification of American Electric Power Company, Inc. (“AEP”) at 6.

joint work during the many kinds of emergency -- from fire to ice storm to hurricane -- that occur throughout the country every year, reasonable requests for vacated Nextel spectrum by these licensees should be permitted during the whole of the five-year preference period.

The CI Reply Coalition also is concerned that remaining former Nextel spectrum may be included in Public Safety regional planning processes following rebanding, and recommends against this procedure. Should a regional planning committee object to an application by a CII entity, vital needs may go unmet due to a planning process -- in which CII is not included -- that unnecessarily blocks CII access to desperately needed frequencies. A defined process is needed for allocation of remaining vacated spectrum, preferably including frequency coordinators with 800 MHz spectrum management experience throughout the band.

2. “Safety Valve” Emergency Interference Protection Provisions Should Be Extended to Critical Infrastructure Licensees.

The CI Reply Coalition applauds the FCC’s inclusion in the R&O of a “safety valve” process to halt interference when it “constitutes a clear and imminent danger to life or property.”¹² As the CI Reply Coalition members, and many of their members, have documented during this proceeding, they, too, have suffered unacceptable interference to field

¹² R&O at ¶ 140.

operations: such interference cannot be tolerated during an emergency when the lives of thousands of personnel are at risk. Again, linkages between utilities and local public safety agencies are strong, and communications linkages are expected to grow stronger to meet community needs by the most cost-effective means. For the reasons stated in Section B(1), *above*, the CI Reply Coalition requests reconsideration of this decision to offer the safety valve process to CII entities as well as Public Safety, under the same requirements and conditions.

C. Re-Licensing Procedures Should be Clarified

1. Full, 70-mile Separation Should Be Restored Between Base Stations in Re-licensing Former Nextel Frequencies.

The CI Reply Coalition supports American Electric Power's position that new Public Safety and Critical Infrastructure Industry applications for former Nextel frequencies in the interleaved portion of the 800 MHz band should adhere to existing rules for the relevant pools.¹³ Much of Nextel's use of the Business and Industrial/Land Transportation frequencies has been configured for its low-site system: sites are short-spaced and footprints are significantly different from those used by high-site applicants such as most public safety and critical infrastructure entities. To ensure that new applicants for these frequencies co-exist with incumbents without causing or experiencing interference, existing rules concerning 70-

¹³ See AEP at 5-6.

mile separation and contour-based protection between base stations, loading requirements, maximum number of channel pairs per application, etc. should be applicable to these frequencies.¹⁴ The CI Reply Coalition also agrees with AEP that the traditional first-come, first-served basis for licensing is preferable to imposition of a Public Safety regional planning process, which is not appropriate for multi-regional critical infrastructure systems and would unnecessarily complicate the licensing process.¹⁵

2. Frequency Coordinators Require Procedures to Ensure that Post-Rebanding Licensing Occurs Properly.

While the Transition Administrator has overall responsibility for ensuring that rebanding is carried out in accordance with the R&O and subsequent Commission decisions,¹⁶ the licensing process in the 800 MHz band following rebanding will fall to those traditionally managing its use: Commission-certified frequency coordinators such as UTC. Various measures are needed to ensure that the new Rules are adhered to, especially during the five-year preference period immediately following rebanding.

For example, the R&O establishes a new General Category pool subject to the five-year Public Safety/Critical Infrastructure preference.¹⁷ However, it is unclear whether current frequency coordinators – certified

¹⁴ 47 C.F.R. § 90.601 *et seq.*

¹⁵ See, AEP at 5.

¹⁶ See, e.g., Supplemental Order and Order on Reconsideration, WT Docket No. 02-55, released December 22, 2004.

¹⁷ R&O Appendix C, § 90.615.

only for the now-combined Business and Industrial/Land Transportation pools since the auction of the former General Category – are certified to provide service to these applicants. The CI Reply Coalition recommends that UTC, at least, be certified to recommend new General Category frequencies when they become available.

An issue for all coordinators is the proper “tagging” of former Nextel frequencies across the country during the five-year preference period.¹⁸ Given the low-site configuration and short-spacing of many of Nextel’s facilities, coordination of remaining frequencies must be careful to ensure that new licensees’ systems function properly; at the same time, these frequencies are not to be made available to non-Public Safety and Critical Infrastructure applicants. Coordinators will need procedures (including a means of identifying CII Category licensees on applications and licenses, which currently does not exist) to carry out these requirements competently and by a means that can be checked by the Wireless Telecommunications Bureau. UTC looks forward to working with the Bureau to arrive at the necessary framework.

D. The FCC Should Adopt an Expedited Waiver Process for Public Safety and Critical Infrastructure Licensees Seeking Waivers of § 90.614 of the Commission’s Rules.¹⁹

¹⁸ The CI Reply Coalition notes, and agrees with, the concerns raised by American Electric Power on this issue. See, AEP at 4-5.

¹⁹ The American Petroleum Institute (one of the CI Reply Coalition members) does not support this Section of the Joint Reply.

In seeking to separate physically high-site and low-site systems, the Commission implemented a restriction against “800 MHz cellular systems” using a site-based definition:

- A system having more than five overlapping interactive sites featuring hand-off capability; and
- Any one of such sites has (*sic*) an antenna height of less than 100 feet above ground level with an antenna height above average terrain (HAAT) of less than 500 feet and more than twenty paired frequencies.²⁰

The CI Reply Coalition appreciates the Commission’s attempt to avoid constraining the growth of advanced technology among private licensees, and its promise to revisit the restriction if necessary. There remain concerns among some CII licensees that sites operating within their current analog systems may already run afoul of the new definition, while they and others continue to look ahead to growing communications needs that can only be met by more advanced technology – providing greater efficiency and much-needed features on the small amount of spectrum available. In addition, the CI Reply Coalition anticipates continued growth in the number and size of 800 MHz private systems -- using digital technology – that are shared among Public Safety and CII entities in a given area.

The movement of existing wireless licensees toward more efficient use of their licensed spectrum – which conveys immediate benefits to their communities in the case of Public Safety and CII users -- can only be

²⁰ R&O at ¶¶ 170-174.

viewed favorably. CII entities have no incentive to cause interference to Public Safety or any other licensee, but nor can individual entities justify investing tens of millions of dollars on “new” systems that use outdated technology. Given repeated CII showings that such systems can be engineered without causing harmful interference, the CI Reply Coalition requests that the waiver process provided in the R&O²¹ be expedited for CII entities.

E. Incumbent Licensees Operating on 861-862 MHz Should Be Eligible for Funded Relocation of Their Systems.

The CI Reply Coalition appreciates the Commission's decision not to permit involuntary retuning of critical infrastructure systems, along with other licensees, to the 861-862 MHz Guard Band.²² However, the newly decreased interference protection available in this one MHz of spectrum²³ has raised significant concerns among CII licensees already operating here. Under the current rebanding framework, these licensees have no alternative but to accept high levels of interference from Nextel and other ESMR systems that may relocate to the Guard Band, in sharp contrast to protections offered to public safety and CII licensees elsewhere in the 800 MHz band. The CI Reply Coalition asks the Commission to expand the rebanding process to permit fully funded relocation of CII operations out of the 861-862 MHz Guard Band. The CI Reply Coalition contemplates that

²¹ See, *Id.* at ¶ 173.

²² *Id.* at ¶ 157.

²³ See, *Id.* at ¶ 158.

this action, involving only a small number of licensees, will be part of the rebanding process of the relevant regions, taking place at the same time as relocation of incumbents operating on Channels 1- 120 in affected areas. Former 861-862 MHz incumbents would be among those relocated to available frequencies in the 854-861 MHz portion of the band.

The CI Reply Coalition believes funded retuning of CII incumbents from the Guard Band would suit the purposes of the 800 MHz proceeding. Not only would this safeguard the safety and reliability of these incumbents' communications; it would help to clear the Guard Band for use by ESMR licensees planning systems more suited to this portion of the band. Given the change in interference protection offered in this small piece of the 800 MHz band, the CI Reply Coalition believes this to be a reasonable request that will not add greatly to Nextel's total relocation costs.

F. Entities Operating in Both Border and Non-Border Areas should be Required to Retune Only Once Unless Otherwise Agreed through Negotiation.

All participants agree: the border areas with Canada and Mexico present major difficulties to the fulfillment of the 800 MHz rebanding process. The CI Reply Coalition appreciates the Commission's examination of this problem, including the likelihood of systems with "double borders."²⁴ Not mentioned, however, and not clear given

²⁴ See, *Id.* at ¶¶ 175-176.

possible conflicts between the thirty-six month rebanding timeline and the pace of international agreements, is whether systems falling on both sides of Line A or Line C may have to reband more than once. Some of the most likely candidates to face this issue are CII entities, many of which have systems covering tens of thousands of square miles in border states.²⁵

The CI Reply Coalition requests that the Commission examine the proposed rebanding schedule carefully to avoid the possibility of multiple rebandings by the same entity. The R&O should be clarified so that licensees with “double border” issues are required to reband only once, unless they voluntarily agree to other arrangements that include full funding of all retunings.

G. The Definition of “Critical Infrastructure Industries” Stated in the Report and Order Should Be Modified.

Appendix C to the R&O, the Final Rules, includes what appears to be an inadvertently erroneous definition of “Critical Infrastructure Industries (CII).” While the Commission earlier correctly identifies CII as entities operating “public safety radio services,”²⁶ Section 90.7 of the Final Rules describes CII itself as “[p]rivate internal radio services operated by State, local governments and non-governmental entities, including utilities. . . .”²⁷ The language of Section 90.7 of the Rules as

²⁵ Two notable examples are Consumers Energy in Michigan and Arizona Public Service Company, both of which have commented on the border issue previously.

²⁶ R&O at ¶4, n.11.

²⁷ *Id.*, Appendix C, ¶ 19 (emphasis added).

codified should be changed to reflect that CII licensees are entities, not services. The CI Reply Coalition agrees with the proposed replacement language offered by Entergy: “States, local governments and non-government entities that operate private internal radio services [etc.]”²⁸

III. Conclusion

WHEREFORE, THE PREMISES CONSIDERED, the CI Reply Coalition supports Petitions for Reconsideration and/or Clarification in the instant proceeding as indicated, and respectfully requests that the Commission act as recommended herein.

Respectfully submitted,

AMERICAN PETROLEUM INSTITUTE

AMERICAN PUBLIC POWER ASSOCIATION

AMERICAN WATER WORKS ASSOCIATION

ASSOCIATION OF METROPOLITAN WATER AGENCIES

EDISON ELECTRIC INSTITUTE

NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

UNITED TELECOM COUNCIL

²⁸ Entergy Petition at 12.